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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,808	06/02/2006	Xuecheng Qian	CN03 0071 US1	7268

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EXAMINER

TRAN, PABLO N

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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09/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,808	Applicant(s) QIAN, XUECHENG	
	Examiner Pablo N. Tran	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 9, and 15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 8-10, and 13 of copending Application No. 11/813,993 and claims 1 and 10 of copending Application No. 10/588,255. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim limitations of claims 1-2, 8-10, and 13 of copending Application No. 11/813,993 and claims 1 and 10 of copending Application

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No. 10/588,255 encompass all the claim limitations of claims 1, 9, and 15 of the instant Application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 7 and 21 recites the limitation “the first decimator” and “the second decimator”. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 7-12, 15-18, and 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Mostafa et al. (hereinafter “Mostafa”, US Pat. No. 7,110,732).

As per claims 1 and 9, Mostafa disclose a bandpass sampling receiver for receiving RF signals, including a first Sigma-delta ADC (see fig. 7/no. 104I), for

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converting the received RF signal into the first channel of digital signal under the control of the first sampling clock signal; a second Sigma-delta ADC (see fig. 7/no. 104Q), for converting the received RF signal into the second channel of digital signal under the control of the second sampling clock signal; a signal separating unit (see fig. 8), for separating the in-phase signal and the quadrature signal in the first channel of digital signal and the second channel of digital signal.

As per claims 2, 10, and 16, Mostafa disclose the frequency of the first sampling clock signal and the second sampling clock signal is $1/N$ of that of the RF signal, where N is a natural number (see fig. 7, 10, paragraph 0057-0058, 0073-0077).

As per claims 3, 11, and 17, Mostafa disclose a relative delay τ between the first sampling clock signal and the second sampling clock signal, and the relative delay τ meets the condition that $\omega_c \tau \neq n\pi$, where ω_c is the circular frequency of the RF signal and n is a natural number (see fig. 7, 10, paragraph 0057-0058, 0073-0077).

As per claims 4, 12, and 18, Mostafa disclose a first lowpass filter (see fig. 8/no. 134I, fig. 10/no. 146), for receiving the first channel of digital signal and outputting the first channel of digitally filtered baseband digital signal to the signal separating unit; a second lowpass filter (see fig. 8/no. 134Q, fig. 10/no. 146), for receiving the second channel of digital signal and outputting the second channel of digitally filtered baseband digital signal to the signal separating unit.

As per claims 7 and 21, Mostafa disclose the first decimator (see fig. 10/no. 146), for receiving the first channel of baseband digital signal and outputting the first channel

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of baseband digital signal after decimation to the signal separating unit; the second decimator (see fig. 10/no. 146), for receiving the second channel of baseband digital signal and outputting the second channel of baseband digital signals after decimation to the signal separating unit (see fig. 10/no. 146).

As per claims 8 and 22, Mostafa disclose a plurality of RF filters (see fig. 7, 8), the plurality of RF filters cascade connected with each other, for filtering the received RF signal in turn; a LNA (see fig. 7, 8), for amplifying the filtered signal, and supplying the amplified filtered RF signal to the first Sigma-delta ADC and second Sigma-delta ADC.

As per claim 15, as stated above in claim 1, Mostafa further disclose a transmitter (see col. 5/ln. 35-37).

Allowable Subject Matter

7. Claims 5-6, 13-14, and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can

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be reached at (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System. Status information for Published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-directauspto.gov>. Should You have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (in USA or CANADA) or 571-272-1000.

September 11, 2008

/Pablo N Tran/

Primary Examiner, Art Unit 2618